

EXHIBIT 14

FIGURE 3 AND FIGURE 4

**CONSTRUCTION OF A LIBRARY OF HEAVY CHAIN GENES IN
fdTetSXNS**

Figure 3 Construction of a library of heavy chain genes in fdTetSXNS

Primer 2 (Huse et al)

5'- AGG TCC AGC TGC TCG AGT CTG G -3'
XhoI

Primer 11 (Huse et al)

5' - CTA TTA ACT AGT AAC GGT AAC AGT GGT GCC TTG CCC CA -3'
SpeI

Insertion of antibody heavy chain cDNA into XhoI-SpeI digested fdTetSXNS

Digest fdTetSXNS with XhoI and SpeI to give vector with two overhangs

CCT TTA GTT GTT CCA TTC TAG CCT CGA GAG CAC GAT GTA CTG CTT GTC TGG CAA AAC CTC ATA
GGA AAT CAA CAA GGT AAG ATC GGA GCT CTC GTG CAT GAT CAC GAA CAG ACC GTT TTG GAG TAT

Pro Leu Val Val Pro Phe * Pro Arg Glu His Asp Val Leu Val Trp Gln Asn Leu Ile

CCT TTA GTT GTT CCA TTC TAG CC CTA GTG CTT GTC TGG CAA AAC CTC ATA
GGA AAT CAA CAA GGT AAG ATC GGA GCT AC GAA CAG ACC GTT TTG GAG TAT

Amplified antibody heavy chain gene PCR product (using primers 2 and 11) digested with XhoI and SpeI using example sequence (Figure 4) from Kabat

TC GAG TCT GGA GGA GGC TTG GTA CCG.....TG GGG CAA GGC ACC ACT GTT ACC GTT A
C AGA CCT CCT CCG AAC CAT GGC.....AC CCC GTT CCG TGG TGA CAA TGG CAA TGA TC

Glu Ser Gly Gly Gly Leu Val Pro Gly Gln Gly Thr Thr Val Thr Val

Figure 3 (continued, ii) Insertion of heavy chain cDNA into fdTetSXNS in the frame described by Dower et al

N-terminus of antibody Fab heavy chain



CCT TTA GTT GTT CCA TTC TAG CCT CCA GTC TGG AGG AGG CTT GGT ACC G
GGA AAT CAA CAA GGT AAG ATC GGA GCT CAG ACC TCC TCC GAA CCA TGG C
XhoI

Pro Leu Val Val Pro Phe * Pro Arg Val Trp Arg Arg Leu Gly Thr

C-terminus of antibody Fab heavy chain

T GGG GCA AGG CAC CAC TGT TAC CGT TAC TAG TGC TTG TCT GGC AAA ACC TCA TA
A CCC CGT TCC GTG ACA ATG GCA ATG ATC ACG AAC AGA CCG TTT TGG AGT AT
SpeI

Gly Ala Arg His Cys Tyr Arg Tyr * Cys Leu Ser Gly Lys Thr Thr

Sequences shown with different frames for sequences in the gene III leader sequence and the antibody gene

N-terminus of antibody Fab heavy chain



CCT TTA GTT GTT CCA TTC TAG CCT C GAG TCT GGA GGC TTG GTA CCGantibody gene
GGA AAT CAA CAA GGT AAG ATC GGA G CTC AGA CCT CCT CCG AAC CAT GGC
XhoI

Pro Leu Val Val Pro Phe * Pro Glu Ser Gly Gly Leu Val Pro

C-terminus of antibody Fab heavy chain

Residues in bold are derived from gene 3.

T GGG CAA GGC ACC ACT GTT ACC GTT ACT **AGT** GCT **TGT** CTG GCA AAA CCT CAT A
A CCC GTT CCG TGG TGA CAA TGG CAA TGA **TCA** CGA ACA GAC CGT **TTT** GGA GTA T
SpeI

Gly Gln Gly Thr Thr Val Thr Thr Ser Ala Cys Leu Ala Lys Pro His

FIGURE 4

SeqhuntII

Aligned analysis over the Kabat Database

May 15, 1998 dataset

Kabat Database ID Number

002506

Entry Creation Date

11/12/94

Date of Last Modification

11/12/94

Sequence Definition

IG HEAVY CHAIN VARIABLE REGION

Species

mouse

Amino Acid Sequence Name

36-7'CL

Nucleotide Sequence Name

36-7

Amino Acid Reference, Authors

CLARKE,S.H.,HUPPI,K.,RUEZINSKY,D.,STAUDT,L.,GERI
& WEIGERT,M.

Amino Acid Reference, Journal

(1985) J.EXP.MED.,161,687-704

Nucleotide Reference, Authors

CLARKE,S.H.,HUPPI,K.,RUEZINSKY,D.,STAUDT,L.,GERI
& WEIGERT,M.

Nucleotide Reference, Journal

(1985) J.EXP.MED.,161,687-704

Source

MOUSE HYBRIDOMA

IG Class

-KAPPA

Antibody Specificity

ANTI-INFLUENZA VIRUS (A/PR/8/34)
HEMAGGLUTININ

Sequence Match

Residue/Codon numbering listed first followed by Kabat Numbering

1	0	---
2	1	gag
3	2	gtg
4	3	aag
5	4	ctg
6	5	gtg
7	6	gag
8	7	tct
9	8	gga
10	9	gga
11	10	ggc
12	11	ttg
13	12	gta
14	13	cag

15	14	cct
16	15	ggg
17	16	ggt
18	17	tct
19	18	ctg
20	19	aga
21	20	ctc
22	21	tcc
23	22	tgt
24	23	gca
25	24	act
26	25	tct
27	26	ggg
28	27	ttc
29	28	acc
30	29	ttc
31	30	att
32	31	gat
33	32	tat
34	33	tat
35	34	atg
36	35	agt
37	35A	---
38	35B	---
39	36	tgg
40	37	gtc
41	38	cgc
42	39	cag
43	40	cct
44	41	cca
45	42	gga
46	43	aag
47	44	gca
48	45	ctt
49	46	gag
50	47	tgg
51	48	ttg
52	49	gct
53	50	ttt
54	51	att
55	52	aga
56	52A	aat
57	52B	aaa
58	52C	gct
59	53	aat
60	54	ggt
61	55	tac
62	56	aca

63	57	aca	
64	58	gag	
65	59	tac	
66	60	agt	
67	61	gca	
68	62	tct	
69	63	gtg	
70	64	agg	
71	65	ggt	
72	66	cgg	
73	67	ttc	
74	68	acc	
75	69	atc	
76	70	tcc	
77	71	aga	
78	72	gat	
79	73	gat	
80	74	tcc	
81	75	caa	
82	76	agc	
83	77	atc	
84	78	ctc	
85	79	tat	
86	80	ctt	
87	81	caa	
88	82	atg	
89	82A	aat	
90	82B	acc	
91	82C	ctg	
92	83	aga	
93	84	cct	
94	85	gag	
95	86	gac	
96	87	agt	
97	88	gcc	
98	89	act	
99	90	tat	
100	91	tac	
101	92	tgt	
102	93	gca	
103	94	aga	
104	95	ggt	ggt
105	96	ggg	ggg
106	97	acg	acg
107	98	---	---
108	99	---	---
109	100	---	---
110	100A	---	---

111	100B	---	---
112	100C	---	---
113	100D	---	---
114	100E	---	---
115	100F	---	---
116	100G	---	---
117	100H	---	---
118	100I	---	---
119	100J	tac	tac
120	100K	ttc	ttc
121	101	gat	gat
122	102	gtc	gtc
123	103	tgg	
124	104	ggc	
125	105	gca	
126	106	ggg	
127	107	acc	
128	108	acg	
129	109	gtc	
130	110	acc	
131	111	gtc	
132	112	tcc	
133	113	tca	